

Answer the following questions and circle your response.
Calculators are not permitted on this test.

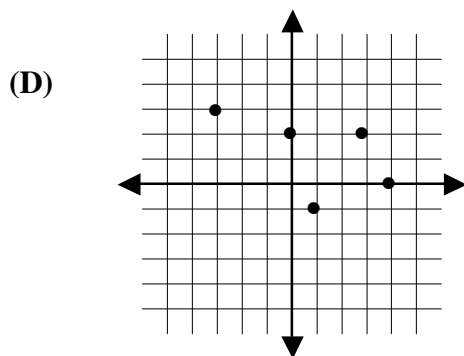
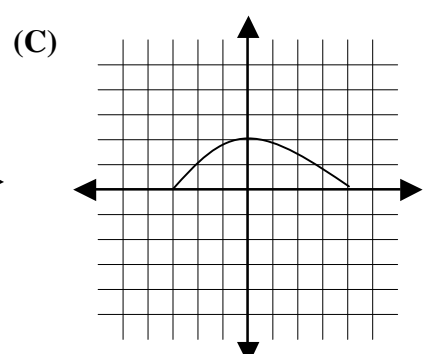
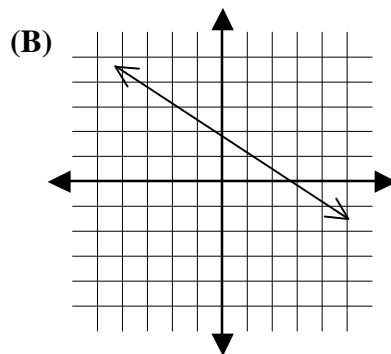
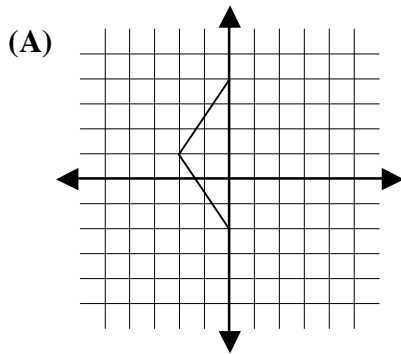
1. Simplify $-2(3m - 5) - 4(m - 1)$

- (A) $-2m - 11$ (B) $-2m + 14$ (C) $-10m + 6$ (D) $-10m + 14$
 (E) none of these

2. A tree casts a shadow of 45 feet at the same time that a 6-ft. man casts a shadow of 10 feet. How tall is the tree?

- (A) 75 ft. (B) 27 ft. (C) 60 ft. (D) 90 ft. (E) none of these

3. Which of the following graphs DOES NOT represent a function of x ?



- (E) all of these are functions

4. The solution to the inequality $5 - 2x > 9$ is:

- (A) $x > 2$ (B) $x < 2$ (C) $x > -2$ (D) $x < -2$ (E) none of these

5. The slope of the line $2x - 3y = 8$ is:

- (A) 2 (B) -3 (C) $\frac{2}{3}$ (D) $-\frac{3}{2}$ (E) none of these

6. Multiply: $(3x - 2)(5 - x) =$

- (A) $3x^2 - 13x + 10$ (B) $-3x^2 + 17x - 10$ (C) $-3x^2 + 13x - 10$
 (D) $3x^2 - 17x + 10$ (E) none of these

7. $\frac{2x^5 y^3}{x^{20}} =$ (A) $\frac{8y^{12}}{x^{20}}$ (B) $\frac{8y^7}{x}$ (C) $\frac{16y^7}{x}$ (D) $\frac{16y^{12}}{x^{20}}$ (E) none of these

8. One of the factors of $6x^2 + 11x - 10$ is:

- (A) $6x - 5$ (B) $3x + 5$ (C) $2x - 5$ (D) $3x + 2$ (E) none of these

9. The **y-value** in the solution to the system of equations $\begin{cases} x - 3y = 18 \\ 2x + y = 1 \end{cases}$ is:

- (A) -5 (B) -7 (C) 5 (D) 3 (E) none of these

10. Solve for t : $\frac{2t+1}{5} + \frac{t-1}{3} = 1$

- (A) $t = 5$ (B) $t = \frac{3}{11}$ (C) $t = \frac{17}{11}$ (D) $t = \frac{8}{3}$ (E) none of these

11. The quadratic formula is $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$.

Use this formula to find the solutions of the equation $2x^2 + 5 = 2x$.
 Simplify your answer.

- (A) $x = 2$ or $x = -\frac{3}{4}$ (B) $x = \frac{1 \pm 3i}{2}$ (C) $x = \frac{2 \pm \sqrt{11}}{4}$
 (D) $x = \frac{-2 \pm 3i}{4}$ (E) none of these

12. Solve $-mx + r = nx - s$ for x .

- (A) $\frac{r+s}{mn}$ (B) $\frac{r-s}{mn}$ (C) $\frac{r+s}{m+n}$ (D) $\frac{r-s}{m+n}$ (E) none of these